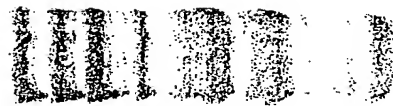


FIG. 1

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84 kDa



41 kDa

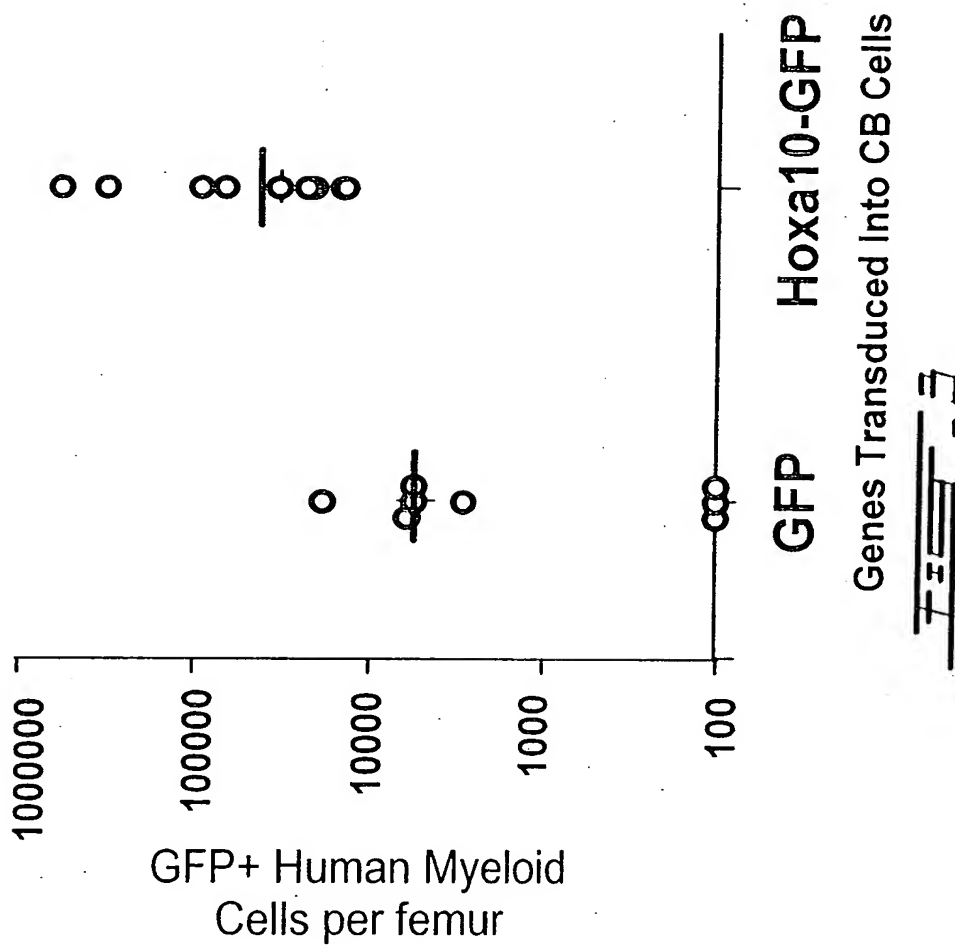
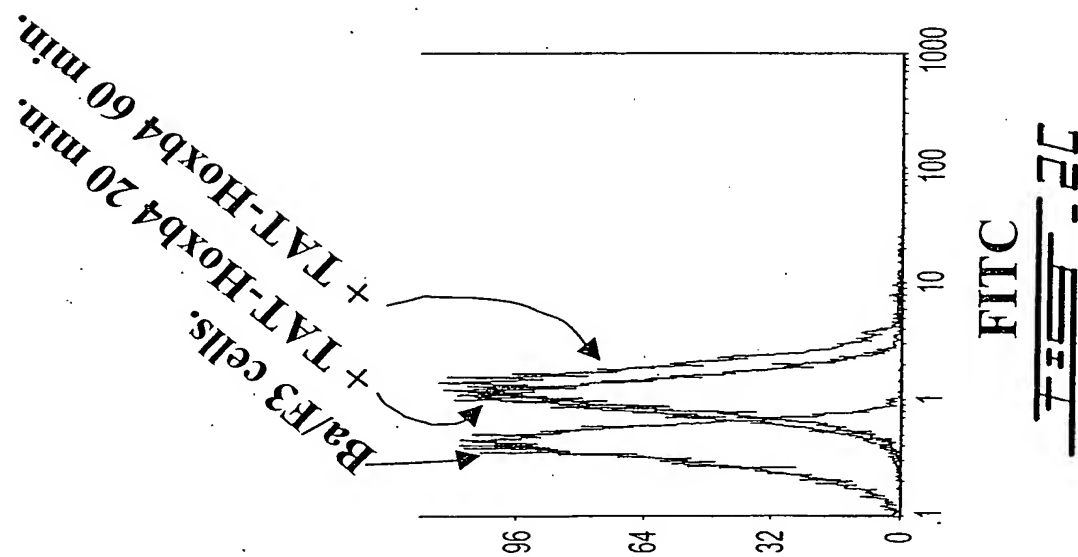


32 kDa



7157 - 2B

7157 - 2A



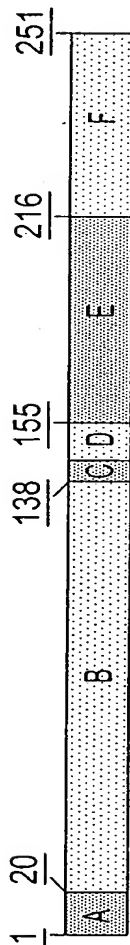


Figure 4A

| Mutant HOXB4 protein (letters refer to HOXB4 domains) | Proliferative effect on Rat-1 cells | Proliferative effect on d12-CFU-S (over controls) |
|--|--|---|
| A to F (wild-type) | ++ | ↑200 X |
| C+D+E+F | ++ | No increase |
| A+B+C | No effect | No increase |
| A to F with point mutation in C (Trp>Gly) | No effect | No increase |
| A to F with point mutation in E (Asn>Ser) | No effect | No increase |

Figure 4B

Domain A: Protein sequence

| | | |
|-------|-------------------------------|--------|
| Hoxa4 | MTMSSEFLINSNYIEPKFPPFEEFA | PHGGPG |
| Hoxc4 | MIMSSYLMDSNMIDPKFPFCEEYSQ | |
| Hoxd4 | --MSSYMNNSKYYVDPKFPPCCEEYIQ | |
| Hoxb4 | MAMSSSEFLINSNYVDPKFPPCCEEYSQ | |
| Dfd | MMSSSEFLMN--VDPKFPPSEEEYNQNSY | |

Conserved Tyrosine (Y) flanked by
acidic (D-E) amino-acids
suggesting that it might be a
substrate for tyrosine kinases

Domain B: Not conserved but contains :

- a long proline stretch (n=15)
- 4 tyrosines
- a potential site for phosphorylation by cAMP protein kinase
- a potential site for phosphorylation by casein kinase II
- a potential site for phosphorylation by PKC

Fig. 5

Rat-1
Rat-1 HOXB4
3T3
3T3 HOXB4

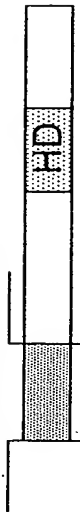
47 kDa—

20 kDa—

FI - 6

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YGRKKRRQRRR



ATG-His6-TAT-HA-HOXB4

Fig. 7a

TAT-HOXB4 (nM)

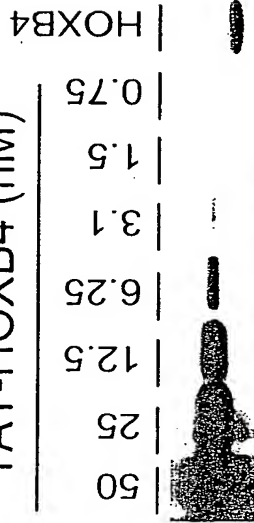


Fig. 7c

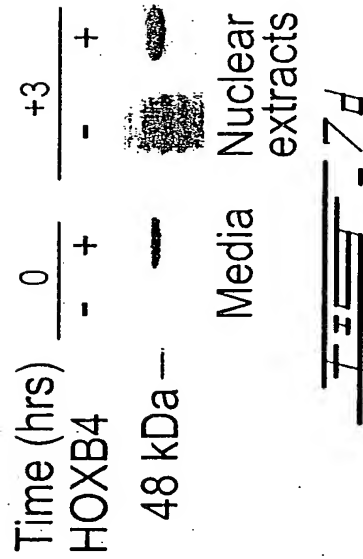


Fig. 7d

(kDa) BL H

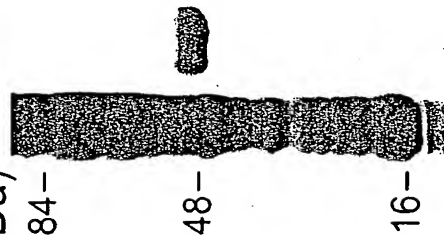


Fig. 7b

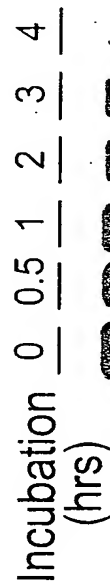


Fig. 7e

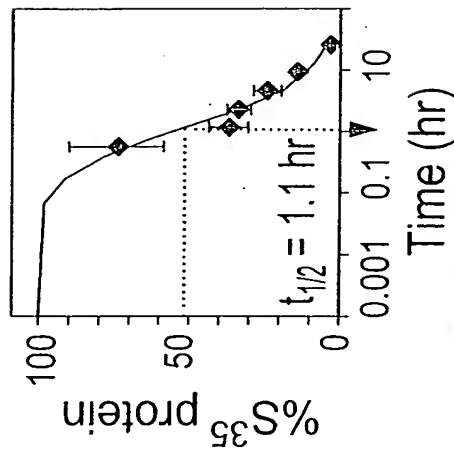
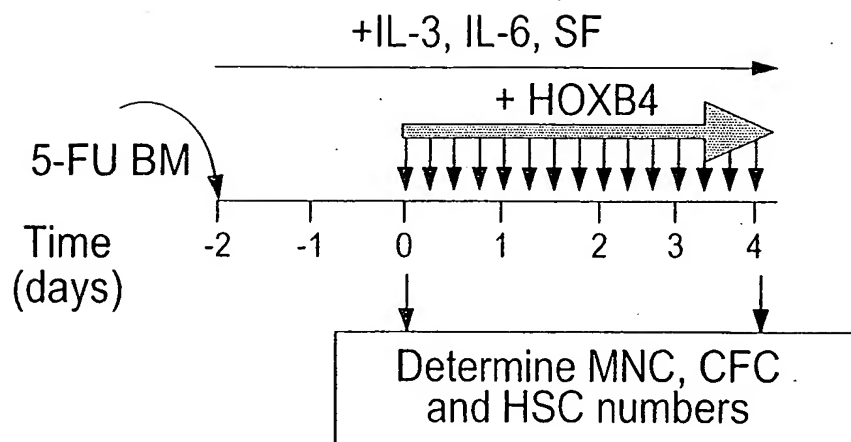
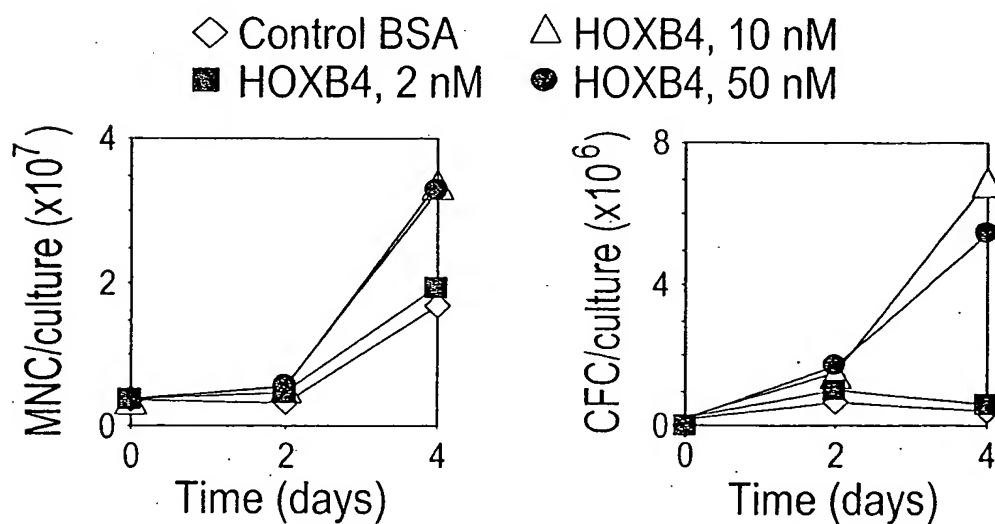


Fig. 7f



| Time (hrs) | 0 | +3 | +6 | +9 | +12 | +15 | +18 | +24 |
|--------------------------|---|----|----|----|-----|-----|-----|-----|
| Fresh media + HOXB4 | + | - | - | - | - | - | - | + |
| HOXB4 addition | - | + | + | + | + | + | + | - |
| FCS, cytokine adjustment | - | - | - | - | + | - | - | - |



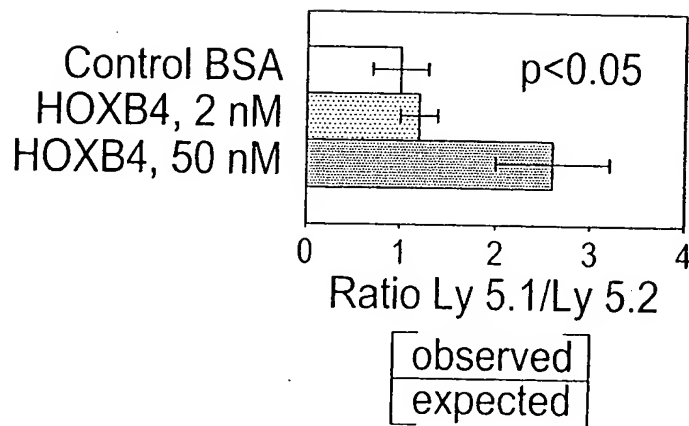


FIGURE 1

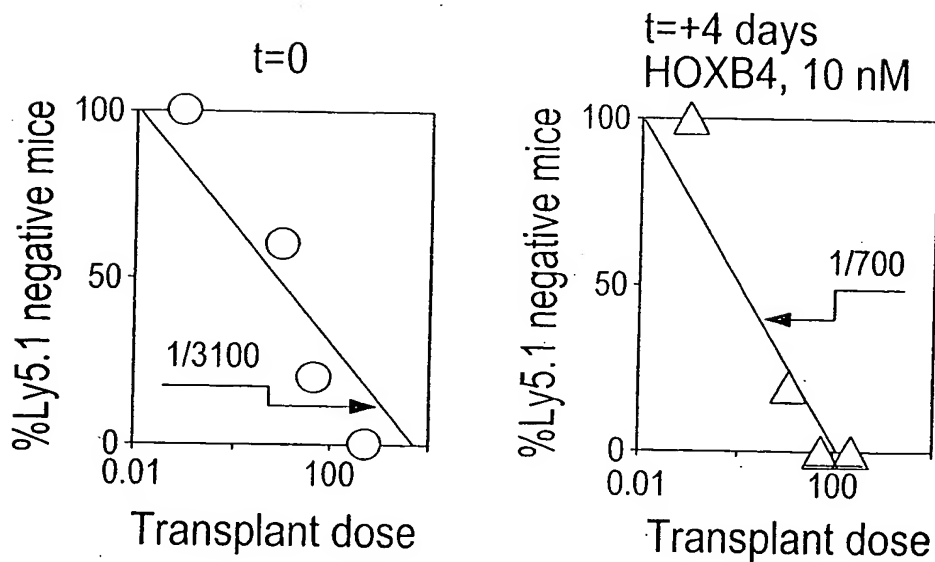
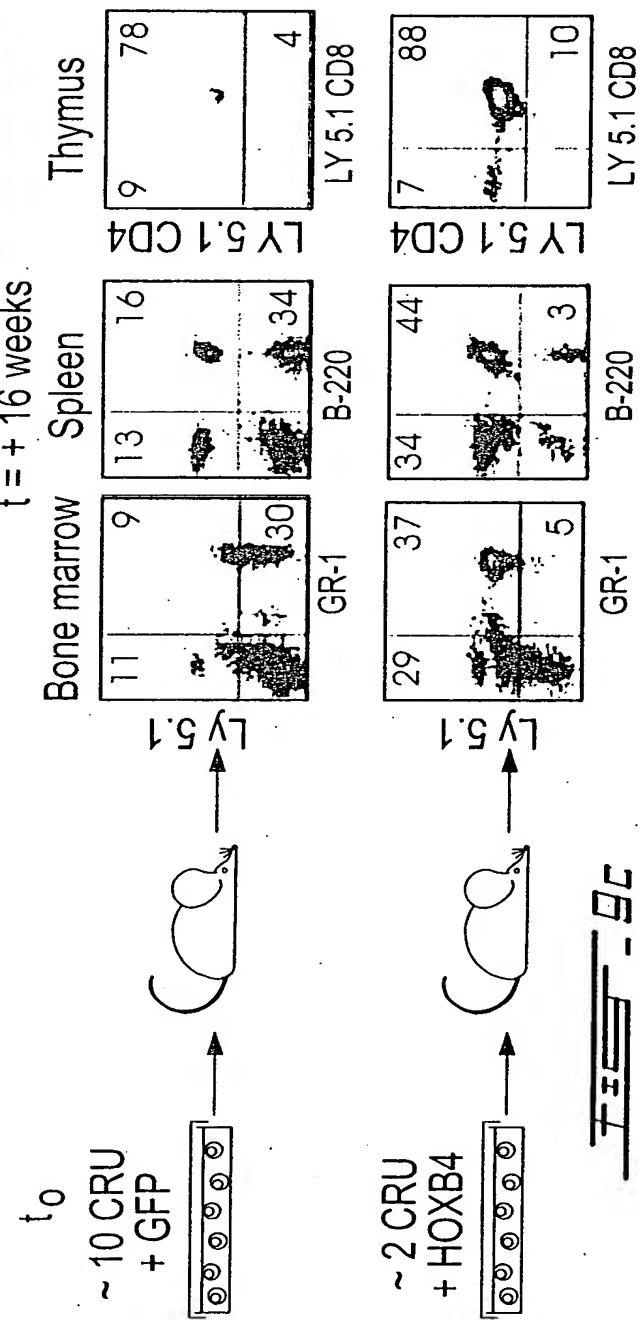
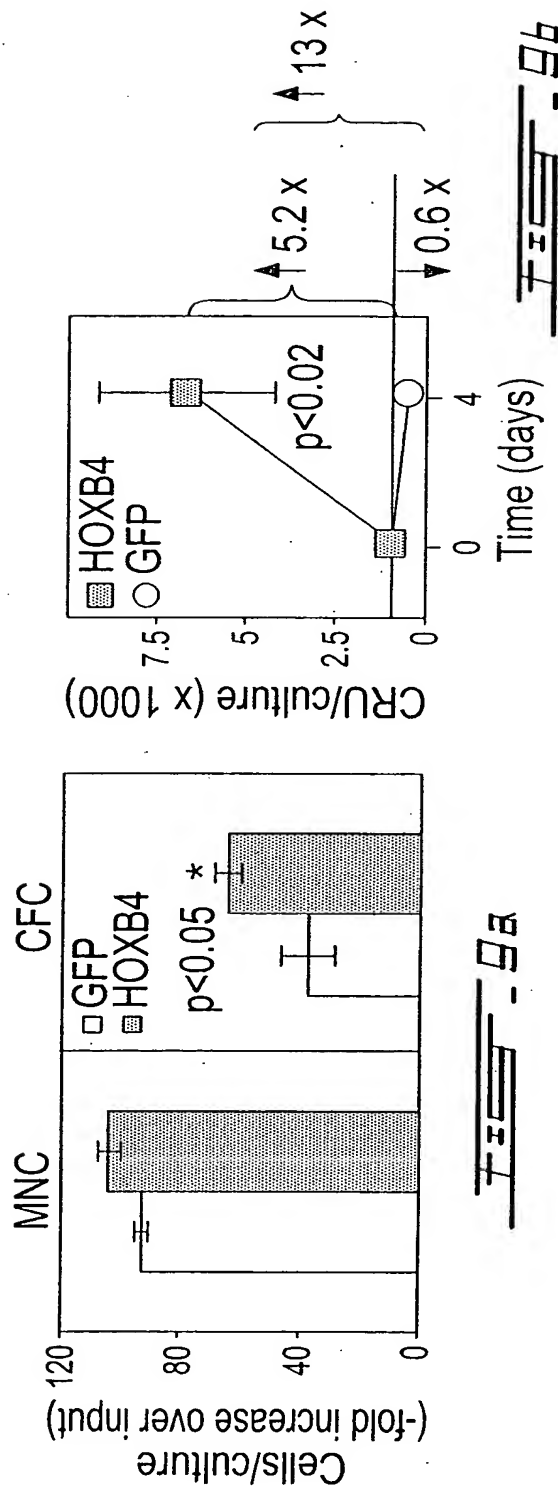


FIGURE 2



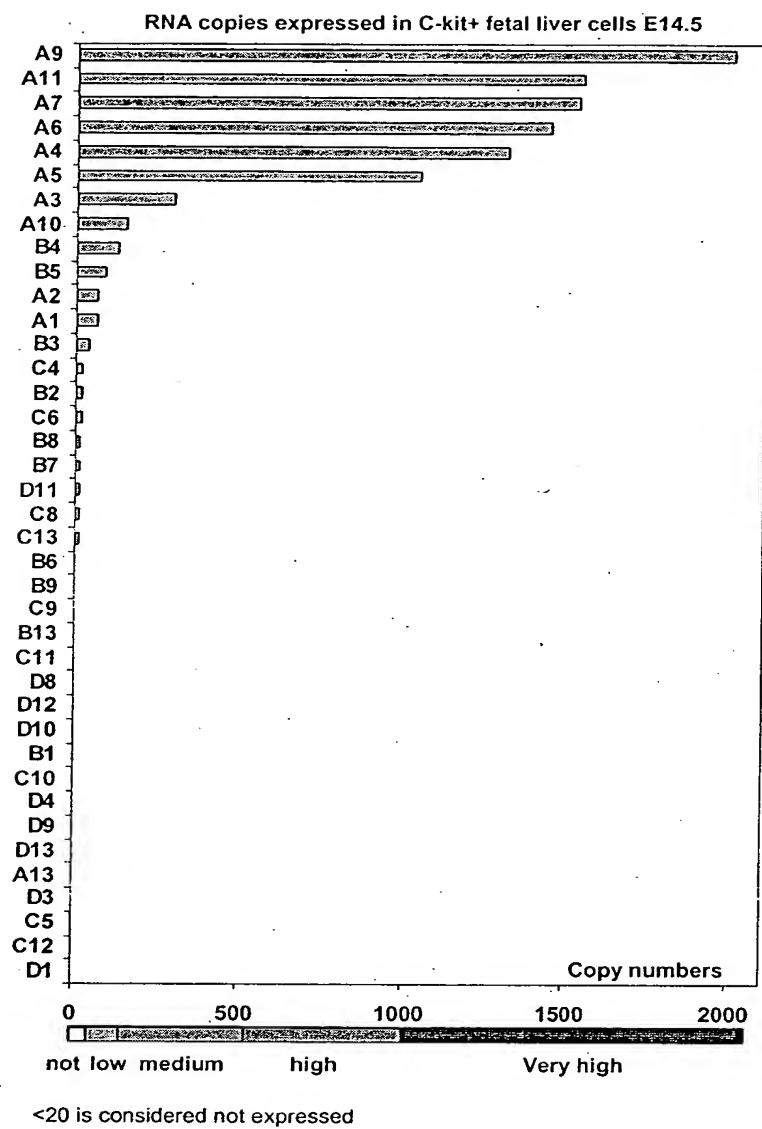
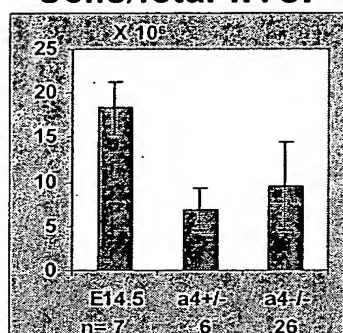
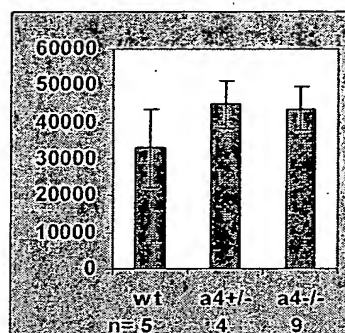


Fig. 10

A. Cells/fetal liver



B. CFC/fetal liver



C. Table 1 Hemopoietic progenitor numbers in E14.5 fetal livers of normal and mutant mice

| | | % SKL | SKL/FL x 10 ³ | CFC/1000 SKL | cells/colony x 10 ² |
|----------------------|-----|-----------|-----------------------------|-----------------------|-----------------------------------|
| wt | n=8 | 0.4 ± 0.2 | 43 ± 15 | 49 ± 9 ^a | 7 ± 6 |
| Hoxa4 ^{+/-} | n=8 | 0.7 ± 0.0 | 54 ± 11 | 72 ^b | 11 |
| Hoxa4 ^{-/-} | n=8 | 0.6 ± 0.1 | 36 ± 12 | 113 ± 23 ^c | 12 ± 3 |

CFC: colony forming cell; SKL: Sca+, c-kit+, Lineage -; FL: fetal liver; : a: n=3; b: n=1; c: n=4

Fig. 12

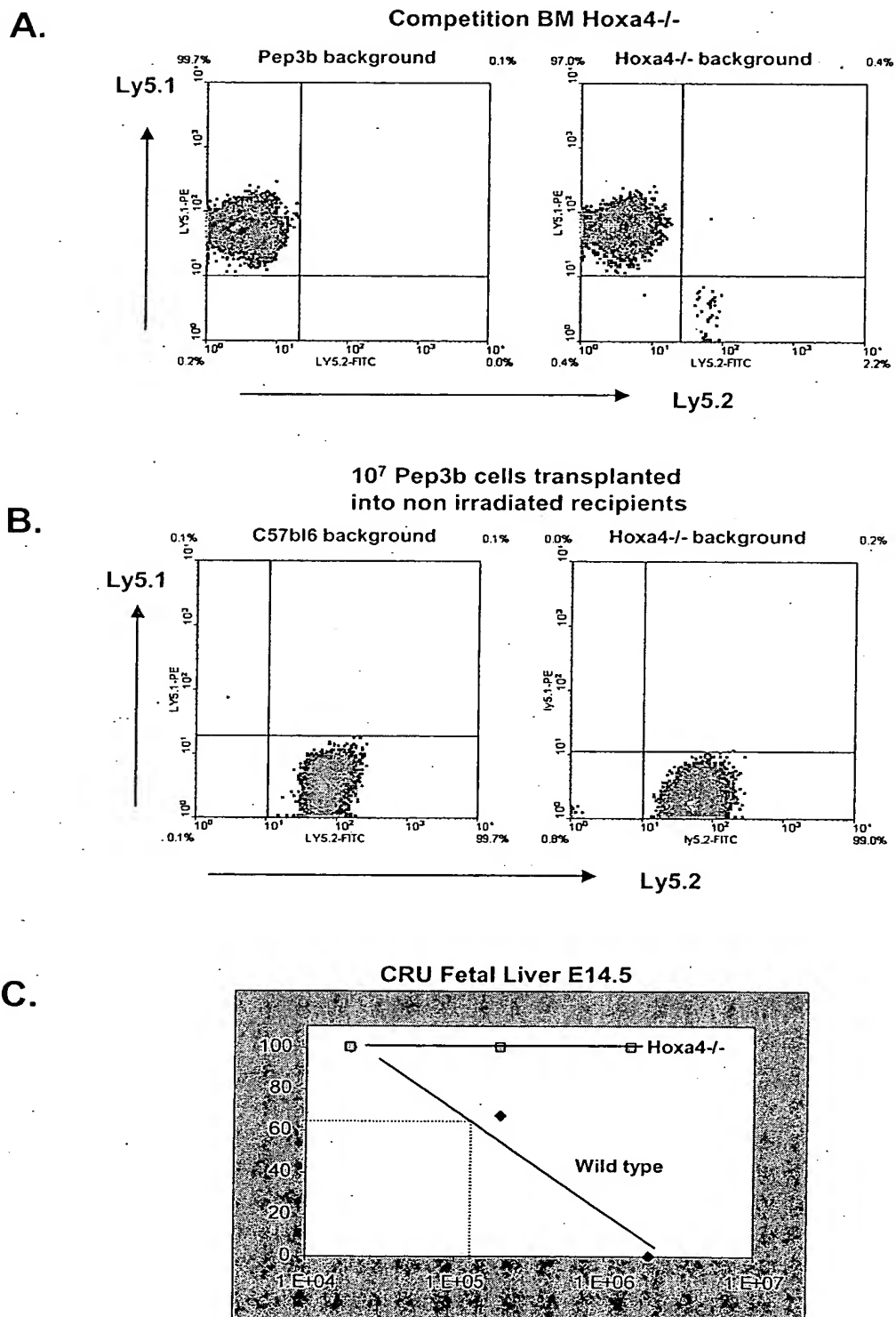


Fig. 13